Gates & Cooper LLP
Howard Hughes Center
6701 Center Drive West, Suite 1050
Los Angeles, California 90045

FAX TRANSMISSION TO USPTO

TO: Commissioner for Patents
Attn: Examiner Peng Ke
Patent Examining Corps
Facsimile Center
Alexandria, VA 22313-1450

FROM: George H. Gates
OUR REF.: G&C 30566.118-US-01
TELEPHONE: (310) 642-4146

Total pages, including cover letter: 23

PTO FAX NUMBER: 571-273-8300

If you do NOT receive all of the pages, please telephone us at (310) 641-8797, or fax us at (310) 641-8798.

Title of Document Transmitted:	**TRANSMITTAL SHEETS AND BRIEF OF APPELLANT.**
Applicant:	Peter F. Janson
Serial No.:	09/780,817
Filed:	February 9, 2001
Group Art Unit:	2174
Title:	OPTIMIZING GRAPHICAL DATA SYNCHRONIZATION BETWEEN A GRAPHICAL CLIENT AND A STATELESS SERVER
Our Ref. No.:	G&C 30566.118-US-01

Please charge all fees to Deposit Account No. 50-0494 of Gates & Cooper LLP.

By: _____
Name: George H. Gates
Reg. No.: 33,500

I hereby certify that this paper is being transmitted by facsimile to the U.S. Patent and Trademark Office on the date shown below.

Barbara Sentz
Signature

September 15, 2005
Date

GHG/bjs

Due Date: September 15, 2005

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Peter F. Janson	Examiner:	Peng Ke
Serial No.:	09/780,817	Group Art Unit:	2174
Filed:	February 9, 2001	Docket:	G&C 30566.118-US-01
Title:	OPTIMIZING GRAPHICAL DATA SYNCHRONIZATION BETWEEN A GRAPHICAL CLIENT AND A STATELESS SERVER		

CERTIFICATE OF MAILING OR TRANSMISSION UNDER 37 CFR 1.8

I hereby certify that this correspondence is being filed via facsimile transmission to the U.S. Patent and Trademark Office on September 15, 2005.

By: _____
Name: George H. Gates

MAIL STOP APPEAL BRIEF - PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

We are transmitting herewith the attached:

☒ Transmittal sheet, in duplicate, containing a Certificate of Mailing or Transmission under 37 CFR 1.8.
☒ Brief of Appellants.
☒ Charge the Fee for the Brief of Appellant(s) in the amount of $500.00 to the Deposit Account.

Please consider this a PETITION FOR EXTENSION OF TIME for a sufficient number of months to enter these papers, if appropriate.

Please charge all fees to Deposit Account No. 50-0494 of Gates & Cooper LLP. A duplicate of this paper is enclosed.

Customer Number 22462

GATES & COOPER LLP
Howard Hughes Center
6701 Center Drive West, Suite 1050
Los Angeles, CA 90045
(310) 641-8797

By: _____
Name: George H. Gates
Reg. No.: 33,500
GHG/bjs

Due Date: September 15, 2005

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of:	
Inventor: Peter F. Janson	Examiner: Peng Ke
Serial # : 09/780,817	Group Art Unit: 2174
Filed: February 9, 2001	Appeal No.: _____
Title: OPTIMIZING GRAPHICAL DATA SYNCHRONIZATION BETWEEN A GRAPHICAL CLIENT AND A STATELESS SERVER	

BRIEF OF APPELLANT

MAIL STOP APPEAL BRIEF - PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

In accordance with 37 CFR §41.37, Appellant's attorney hereby submits the Brief of Appellant on appeal from the final rejection in the above-identified application, as set forth in the Office Action dated April 15, 2005.

Please charge the amount of $500 to cover the required fee for filing this Brief of Appellant as set forth under 37 CFR §41.37(a)(2) and 37 CFR §41.20(b)(2) to Deposit Account Number 50-0494 of Gates & Cooper LLP.

Also, please charge any additional fees or credit any overpayments to Deposit Account Number 50-0494 of Gates & Cooper LLP.

I. REAL PARTY IN INTEREST

The real party in interest is Autodesk, Inc., the assignee of the present application.

II. RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

III. STATUS OF CLAIMS

Claims 1-27 are pending in the application.

Claims 1-7, 10-16, and 19-25 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,331,858 to Fisher.

Claims 8, 17, and 26 were rejected under 35 U.S.C. §103(a) as being rendered obvious by Fisher in view of U.S. Patent No. 6,374,402 to Schmeidler.

Claims 9, 18, and 27 were rejected under 35 U.S.C. §103(a) as being rendered obvious by Fisher in view of U.S. Patent No. 6,414,693 to Berger.

Claims 1-27 are being appealed.

IV. STATUS OF AMENDMENTS

No amendments have been made subsequent to the final Office Action.

V. SUMMARY OF THE INVENTION

Appellant's independent claims 1, 10 and 19 are generally directed to an invention that synchronizes data between a graphical client and a server.

Independent claim 1 recites a method for synchronizing data between a graphical client (108) and a server (110). See, page 2, line 21 through page 3, line 4; page 6, line 15 through page 7, line 3; and page 4, lines 9-17 referring to 104, 106, 108 and 110 in FIG. 1.

One or more root object nodes (302) of a scene are downloaded from the server (110) to the graphical client (108), wherein the scene is a collection of parameter values for rendering a model. See, page 2, line 21 through page 3, line 4; page 5, line 24 through page 6, line 13 referring to 302 and 304 in FIG. 3; page 6, line 15 through page 7, line 3; and page 8, lines 18-21 referring to 402 in FIG. 4.

Bounding volumes for the object nodes (302 or 304) are intersected with a view frustum in the graphical client (108) to determine a set of visible and undefined object nodes (302 or 304), wherein the view frustum comprises the part of the model between cutting planes defined by the

scene. See, page 2, line 21 through page 3, line 4; page 6, line 15 through page 7, line 3; and page 8, lines 22-24 referring to 404 in FIG. 4.

The object nodes (302 or 304) in the set of visible and undefined object nodes are downloaded from the server (110) to the graphical client (108), wherein the graphical client (108) renders the scene from the object nodes (302 or 304). See, page 2, line 21 through page 3, line 4; page 6, line 15 through page 7, line 3; and page 8, line 25 through page 9, line 4 referring to 406, 408, 410 and 412 in FIG. 4.

Independent claim 10 recites a computer-implemented system for synchronizing data between a graphical client (108) and a server (110). See, page 2, line 21 through page 3, line 4; page 6, line 15 through page 7, line 3; and page 4, lines 9-17 referring to 104, 106, 108 and 110 in FIG. 1.

The graphical client (108), which is executed by a computer (104), includes means for downloading one or more root object nodes (302) of a scene from the server (110) to the graphical client (108), wherein the scene is a collection of parameter values for rendering a model. Note that, in accordance with 41.37(c)(1)(v), this means plus function is hereby identified, wherein the corresponding structure is identified as the graphical client (108) in FIG. 1 and the corresponding acts are described in the specification at page 2, line 21 through page 3, line 4; page 5, line 24 through page 6, line 13 referring to 302 and 304 in FIG. 3; page 6, line 15 through page 7, line 3; and page 8, lines 18-21 referring to 402 in FIG. 4.

The graphical client (108) also includes means for intersecting bounding volumes for the object nodes (302 or 304) with a view frustum in the graphical client (108) to determine a set of visible and undefined object nodes (302 or 304), wherein the view frustum is the part of the model between cutting planes defined by the scene. Note that, in accordance with 41.37(c)(1)(v), this means plus function is hereby identified, wherein the corresponding structure is identified as the graphical client (108) in FIG. 1 and the corresponding acts are described in the specification at page 2, line 21 through page 3, line 4; page 6, line 15 through page 7, line 3; and page 8, lines 22-24 referring to 404 in FIG. 4.

The graphical client (108) also includes means for downloading the object nodes (302 or 304) in the set of visible and undefined object nodes from the server (110) to the graphical client (108), wherein the graphical client (108) renders the scene from the object nodes (302 or 304). Note that, in accordance with 41.37(c)(1)(v), this means plus function is hereby identified, wherein the

corresponding structure is identified as the graphical client (108) in FIG. 1 and the corresponding acts are described in the specification at page 2, line 21 through page 3, line 4; page 6, line 15 through page 7, line 3; and page 8, line 25 through page 9, line 4 referring to 406, 408, 410 and 412 in FIG. 4.

Dependent claim 11, which depends upon claim 10, recites that the graphical client (108) further comprises two means, i.e., means for determining (4) whether the downloaded object nodes reference other object nodes (302 or 304), and means for repeating (5)the means for intersecting (2) and the means for downloading (3) for the other object nodes (302 or 304). Note that, in accordance with 41.37(c)(1)(v), this means plus function is hereby identified, wherein the corresponding structure is identified as the graphical client (108) in FIG. 1 and the corresponding acts are described in the specification at page 2, line 21 through page 3, line 4; page 6, line 15 through page 7, line 3; and page 8, line 25 through page 9, line 3 referring to 406, 408 and 410 in FIG. 4.

Dependent claim 12, which depends upon 11, recites that the graphical client (108) further comprises another means, i.e., means for repeating (6) the means for determining (4) and means for repeating (5) until the set of visible and undefined object nodes (302 or 304) is empty. Note that, in accordance with 41.37(c)(1)(v), this means plus function is hereby identified, wherein the corresponding structure is identified as the graphical client (108) in FIG. 1 and the corresponding acts are described in the specification at page 2, line 21 through page 3, line 4; page 6, line 15 through page 7, line 3; and page 8, line 25 through page 9, line 3 referring to 406, 408 and 410 in FIG. 4.

Dependent claim 13, which depends upon claim 12, recites that the graphical client (108) further comprises means for rendering the scene when the set of visible and undefined object nodes (302 or 304) is empty. Note that, in accordance with 41.37(c)(1)(v), this means plus function is hereby identified, wherein the corresponding structure is identified as the graphical client (108) in FIG. 1 and the corresponding acts are described in the specification at page 2, line 21 through page 3, line 4; page 6, line 15 through page 7, line 3; and page 9, line 4 referring to 412 in FIG. 4.

Dependent claim 14, which depends upon claim 13, recites that the graphical client (108) further comprises means for repeating the means for downloading (1) through the means for repeating (6) when a camera changes the scene. Note that, in accordance with 41.37(c)(1)(v), this means plus function is hereby identified, wherein the corresponding structure is identified as the

graphical client (108) in FIG. 1 and the corresponding acts are described in the specification at page 2, line 21 through page 3, line 4; page 6, line 15 through page 7, line 3; and page 9, line 7 referring to 414 in FIG. 4.

Dependent claim 15, which depends upon claim 10, recites that the means for downloading (1) comprises means for downloading descriptions of the root object nodes (302) from the server to the graphical client, wherein the descriptions include references to other object nodes (302 or 304) comprising unique persistent identifiers for the referenced object nodes (302 or 304) with their associated bounding volumes. Note that, in accordance with 41.37(c)(1)(v), this means plus function is hereby identified, wherein the corresponding structure is identified as the graphical client (108) in FIG. 1 and the corresponding acts are described in the specification at page 2, line 21 through page 3, line 4; page 6, line 15 through page 7, line 3; and page 8, lines 18-21 referring to 402 in FIG. 4.

Dependent claim 16, which depends upon claim 10, recites that the means for downloading (1) comprises means for downloading descriptions of the object nodes (302 or 304) from the server (110) to the graphical client (108), wherein the descriptions include references to other object nodes (302 or 304) comprising unique persistent identifiers for the referenced object nodes (302 or 304) with their associated bounding volumes. Note that, in accordance with 41.37(c)(1)(v), this means plus function is hereby identified, wherein the corresponding structure is identified as the graphical client (108) in FIG. 1 and the corresponding acts are described in the specification at page 2, line 21 through page 3, line 4; page 6, line 15 through page 7, line 3; and page 8, lines 25-26 referring to 406 in FIG. 4.

Independent claim 19 recites an article of manufacture embodying logic for synchronizing data between a graphical client (108) and a server (110). See, page 2, line 21 through page 3, line 4; page 6, line 15 through page 7, line 3; and page 4, lines 9-29 referring to 104, 106, 108 and 110 in FIG. 1.

One or more root object nodes (302) of a scene are downloaded from the server (110) to the graphical client (108), wherein the scene is a collection of parameter values for rendering a model. See, page 2, line 21 through page 3, line 4; page 5, line 24 through page 6, line 13 referring to 302 and 304 in FIG. 3; page 6, line 15 through page 7, line 3; and page 8, lines 18-21 referring to 402 in FIG. 4.

Bounding volumes for the object nodes (302 or 304) are intersected with a view frustum in the graphical client (108) to determine a set of visible and undefined object nodes (302 or 304), wherein the view frustum comprises the part of the model between cutting planes defined by the scene. See, page 2, line 21 through page 3, line 4; page 6, line 15 through page 7, line 3; and page 8, lines 22-24 referring to 404 in FIG. 4.

The object nodes (302 or 304) in the set of visible and undefined object nodes are downloaded from the server (110) to the graphical client (108), wherein the graphical client (108) renders the scene from the object nodes (302 or 304). See, page 2, line 21 through page 3, line 4; page 6, line 15 through page 7, line 3; and page 8, line 25 through page 9, line 4 referring to 406, 408, 410 and 412 in FIG. 4.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1. Whether claims 1-7, 10-16, and 19-25 are unpatentable under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,331,858 to Fisher.

2. Whether claims 8, 17, and 26 are unpatentable under 35 U.S.C. §103(a) as being rendered obvious by Fisher in view of U.S. Patent No. 6,374,402 to Schmeidler.

3. Whether claims 9, 18, and 27 are unpatentable under 35 U.S.C. §103(a) as being rendered obvious by Fisher in view of U.S. Patent No. 6,414,693 to Berger.

VII. ARGUMENTS

A. The Office Action Rejections

On page (2) of the Office Action, claims 1-7, 10-16, and 19-25 were rejected under 35 U.S.C. §102(e) as being anticipated by Fisher, U.S. Patent No. 6,331,858. On page (5), first paragraph of the Office Action, claims 8, 17, and 26 were rejected under 35 U.S.C. §103(a) as being unpatentable in view of the combination of Fisher and Schmeidler et al., U.S. Patent No. 6,374,402 (Schmeidler). Also, on page (5), paragraph 5 of the Office Action, claims 9, 18, and 27 were rejected under 35 U.S.C. §103(a) as being obvious in view of the combination of Fisher and Berger et al., U.S. Patent No. 6,414,693 (Berger).

Appellant's attorney respectfully traverses these rejections.

B. The Appellant's Independent Claims

Independent claims 1, 10, and 19 are generally directed to synchronizing data between a graphical client and a server. Claim 1 is representative, and comprises the steps of:

(a) downloading one or more root object nodes of a scene from the server to the graphical client, wherein the scene is a collection of parameter values for rendering a model;

(b) intersecting bounding volumes for the object nodes with a view frustum in the graphical client to determine a set of visible and undefined object nodes, wherein the view frustum comprises the part of the model between cutting planes defined by the scene; and

(c) downloading the object nodes in the set of visible and undefined object nodes from the server to the graphical client, wherein the graphical client renders the scene from the object nodes.

C. The Fisher Reference

Fisher describes a user interface on a display terminal, such as a personal computer, includes a 3D display region which shows a scene incorporating a number of objects, such as items of furniture. A surface finish selector is also displayed and is used to select a surface finish from a number of alternatives. In the case of items of furniture, these finishes may correspond to different fabrics for upholstery. A surface texture data for a selected finish is automatically downloaded from a remote source and mapped onto the object in the 3D scene. In a preferred implementation, the surface finish selector is a frame of a web page and generates control data which is passed to another frame containing the 3D scene together with movement controls for changing the viewpoint in the scene.

D. The Schmeidler Reference

Schmeidler describes a system for secure delivery of on-demand content over broadband access networks includes a client application executing on a user's local computer system. The client application interacts with a content server on which a plurality of selectable titles are stored and further interacts with an access server which provides the network address of a title and keying data necessary for to the client process access and execute the title. The client process utilizes an installation abstraction which enables a title to be executed on the local computer system without ever being installed. The abstraction is achieved by mounting a network file system and storing a set

of registry entries related to the title on the local computer system. Portions of the title are retrieved from the content server and executed by the local operating system. During title execution, requests from the local operating system are intercepted and redirected to the set of registry entries, as applicable. The times at which the client process may retrieve the title data from the content server are defined by the access server through use of an activator and token.

E. The Berger Reference

Berger describes a system and method for customizing articles on a computer-based display provides a supplier database and remote client computer. Data is transferred between the supplier and the client computer including predetermined images of client articles and accompanying images of custom graphics. The database stores information on a variety of clients. Each client is associated with one or more profile, and each profile includes a series of images associated therewith. The client logs in under a given profile user name and password, and selects desired article images, and then calls up associated graphic images to manipulate onto the article images, creating a desired appearance. This appearance can be resubmitted to the supplier for production of an actual physical sample of the article.

D. Arguments Directed To The First Grounds for Rejection: Whether claims 1-7, 10-16, and 19-25 are unpatentable under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,331,858 to Fisher.

1. Claims 1, 10 and 19

The Appellant's invention, as recited in independent claims 1, 10 and 19, is patentable over the references, because it contains limitations not taught by the references.

The Office Action cites Fisher as disclosing the limitation of "downloading one or more root object nodes of a scene from the server to the graphical client" at col. 3, lines 14-40 and col. 5, lines 40-50, which are set forth below:

> Col. 3 lines 14-40
> A display terminal comprises a personal computer 1. The personal computer includes a cathode ray tube (CRT) monitor 2 and a mouse 3. In this example, the personal computer includes an Intel 166 MHz Pentium MMX (Trademark) processor, together with regions of RAM and a hard disk mass storage device. The

personal computer is connected via modem 4 and the PSTN (public switched telephone network) to an Internet Service Provider (ISP). A web browser, such as Microsoft Corporation's Internet Explorer (Trademark) runs on the processor of the personal computer 1, and in combination with the plug-in application described below, is responsible for generating a display on the monitor, and for interpreting input from the user. Using the web browser, the user accesses a web server 6 which, in this example, is maintained by a furniture retailer, and includes a product catalogue. The web server 6 then returns to the web client on the personal computer 1 a web page which has the format illustrated in FIG. 2. In this Figure, the different file names are included for ease of understanding, although normally such file names would not appear explicitly in the display. The top level document returned by the server 6 is, in this example, a file named BT.htm. This HTML file includes in turn two other web pages. A first web page, pinefin5.htm is displayed in a frame on the right hand side of the screen. This page includes a 3-dimensional virtual reality display of a domestic interior.

Col. 5 lines 40-50

As well as, or as an alternative to, using the left hand frame for the selection of surface finishes, it may be used to control the selection of objects for insertion in the 3D scene. For example, the user may first generate an empty 3D interior based on measurements of a room. Subsequently the user may access the on-line catalogue of a furniture retailer and may select objects, such as a chair, which are then downloaded and inserted in the 3D scene using the same mechanism as that adopted for downloading textures in the preceding examples.

The above portions of Fisher do not teach or suggest the limitation of Appellant's claims, which comprises "downloading one or more root object nodes of a scene from the server to the graphical client, wherein the scene is a collection of parameter values for rendering a model."

Indeed, Fisher does not teach or suggest "root object nodes of a scene," as that term is defined in Appellant's specification, and in the context of the graph structure described by Appellant's specification.

Instead, the cited locations in Fisher merely relate to the display of web pages that reference other pages, as well as the use of a frame by the user to control the selection of objects for insertion in a 3D scene, wherein selected objects are downloaded and inserted into the 3D scene.

The Office Action cites Fisher as disclosing the limitation of "intersecting bounding volumes for the object nodes with a view frustum in the graphical client to determine a set of visible and undefined object nodes" at col. 5, lines 15-25, which is set forth below:

Col. 5, lines 15-25

FIG. 3 shows the screen display in the first example described above. A frame F1 on the left hand side displays a number of 2D fabric samples s1-s6. The frame is bounded by a scroll bar SB. On the right hand side of the screen, a frame F2 includes the 3D scene generated by the Viscape plug-in. The displayed objects include a curtains 301, chair 302 and carpet 303. Control buttons 305, 306, 307 move the viewpoint in 3 dimensions with respect to the scene, which changes correspondingly as the viewpoint moves.

FIG. 4 is a diagram showing an enlarged detail of the left hand frame.

The above description in Fisher does not teach or suggest the limitation of Appellant's claims, which comprises "intersecting bounding volumes for the object nodes with a view frustum in the graphical client to determine a set of visible and undefined object nodes, wherein the view frustum is the part of the model between cutting planes defined by the scene."

Instead, the cited location in Fisher merely describes "displayed objects" that are curtains, chairs and carpets.

Nonetheless, the Office Action asserts that it is inherent when the user navigates the view to the right or the left, some objects would become or stay visible, and some objects would become or stay undefined.

Certainly, there is nothing "inherent" in Fisher that would teach or suggest determining a set of visible and undefined object nodes, for purposes of downloading those object nodes in the next step or means, wherein the set is determined by intersecting bounding volumes for the object nodes with a view frustum, which comprises the part of the model between cutting planes defined by the scene.

Instead, the only thing "inherent" and related in Fisher is that control buttons 305, 306, 307 move the viewpoint in 3 dimensions with respect to the scene, which changes correspondingly as the viewpoint moves.

Finally, the Office Action cites Fisher as disclosing the limitation of "downloading the object nodes in the set of visible and undefined object nodes from the server to the graphical client, wherein the graphical client renders the scene from the object nodes" at col. 4, lines 62-65 and col. 5, lines 10-14, which are set forth below:

Col. 4 line 62 – col. 5, line 14

After a final selection of finishes for all the objects in the 3D scene, the user may store the scene, including the selected surface finish data locally on the hard disk. The web browser may subsequently be pointed to the URL of another retailer or manufacturer. For example the web site of a paint manufacturer might be accessed. A new web page is then loaded into the left hand frame, to show a selection of different colour samples in different finishes (matt, gloss, silk etc.. These may then be selected by the user for walls or other features of the interior scene shown in the right hand frame. As described previously, the corresponding surface finish data is the imported into the 3D scene, which is modified accordingly, so that, for example, the walls are shown covered in the selected paint, together with the furniture shown in the fabrics selected at the first web site. Again, the left hand frame may include a pricing function to calculate the cost of a particular selection by the user, based, in this example, on the cost per unit volume of a selected paint, on the coverage required for the selected paint, and on the areas to which the paint is applied in the 3D scene.

Fisher does not teach or suggest the limitation "downloading the object nodes in the set of visible and undefined object nodes from the server to the graphical client, wherein the graphical client renders the scene from the object nodes."

Instead, the cited portions of Fisher merely describe the storage and display of a selection of surface finishes for objects in a scene displayed in a web page.

However, nowhere is there any discussion in the cited portions of Fisher of downloading a set of visible and undefined object nodes, where the set of visible and undefined object nodes has been determined by intersecting bounding volumes for the object nodes with a view frustum.

Schmeidler and Berger fail to overcome the deficiencies of Fisher as they relate to independent claims 1, 10 and 19. Recall that Schmeidler was cited only against dependent claims 8, 17 and 26 as teaching a stateless server, and Berger was cited only against dependent claims 9, 18 and 27 as teaching a client-side cache.

The references, taken individually or in combination, do not anticipate or render obvious Appellant's claimed invention. Moreover, the various elements of Appellant's claimed invention together provide operational advantages over the references. In addition, Appellant's invention solves problems not recognized by the references.

Thus, Appellant's attorney submits that independent claims 1, 10, and 19 are allowable over Fisher, Schmeidler, and Berger. Further, dependent claims 2-9, 11-18, and 20-27 are submitted to be allowable over Fisher, Schmeidler, and Berger in the same manner, because they are dependent on

independent claims 1, 10, and 19, respectively, and thus contain all the limitations of the independent claims. In addition, dependent claims 2-9, 11-18, and 20-27 recite additional novel elements not shown by Fisher, Schmeidler, and Berger.

2. Claims 2, 11 and 20

Claims 2, 11 and 20 recite determining whether the downloaded object nodes reference other object nodes and repeating the steps (b)/(c) or means (2)/(3) for the other object nodes.

The Office Action asserts that Fisher teaches these limitations at col. 5, lines 41-62.

Appellant's attorney disagrees with this analysis, and submits that nowhere does the reference teach or suggest the limitations of these claims.

Instead, the cited locations in Fisher merely relate to the use of a frame by a user to control the selection of objects for insertion in a 3D scene, wherein selected objects are downloaded and inserted into the 3D scene.

However, nowhere is there any discussion in the cited portions of Fisher of object nodes that reference other object nodes, and repeatedly determining a set of visible and undefined object nodes and then downloading the set of visible and undefined object nodes.

3. Claims 3, 12 and 21

Claims 3, 12 and 21 recite repeating steps (d)/(e) or means (4)/(5) until the set of visible and undefined object nodes is empty.

The Office Action asserts that Fisher teaches these limitations at col. 5, lines 41-62.

Appellant's attorney disagrees with this analysis, and submits that nowhere does the reference teach or suggest the limitations of these claims.

Instead, the cited locations in Fisher merely relate to the use of a frame by a user to control the selection of objects for insertion in a 3D scene, wherein selected objects are downloaded and inserted into the 3D scene.

However, nowhere is there any discussion in the cited portions of Fisher of repeatedly determining a set of visible and undefined object nodes and then downloading the set of visible and undefined object nodes, until the set is empty.

4. Claims 4, 13 and 22

Claims 4, 13 and 22 recite rendering the scene when the set of visible and undefined object nodes is empty.

The Office Action asserts that Fisher teaches these limitations at col. 5, lines 41-62.

Appellant's attorney disagrees with this analysis, and submits that nowhere does the reference teach or suggest the limitations of these claims.

Instead, the cited locations in Fisher merely relate to the use of a frame by a user to control the selection of objects for insertion in a 3D scene, wherein selected objects are downloaded and inserted into the 3D scene.

However, nowhere is there any discussion in the cited portions of Fisher of repeatedly determining a set of visible and undefined object nodes, downloading the set of visible and undefined object nodes, until the set is empty, and then rendering the scene, when the set is empty.

5. Claims 5, 14 and 23

Claims 5, 14 and 23 recite repeating steps (a)-(f) or means (1)-(6) when a camera changes the scene.

The Office Action asserts that Fisher teaches these limitations at col. 5, lines 15-24.

Appellant's attorney disagrees with this analysis, and submits that nowhere does the reference teach or suggest the limitations of these claims.

Instead, the cited locations in Fisher merely relate to the display of multiple frames, including one with a 3D scene, and the use of control buttons to move the viewpoint in 3 dimensions with respect to the scene.

However, nowhere is there any discussion in the cited portions of Fisher of repeatedly determining a set of visible and undefined object nodes, downloading the set of visible and undefined object nodes, until the set is empty, and then repeating these steps when the camera changes the scene.

6. Claims 6, 15 and 24

Claims 6, 15 and 24 recite that the downloading step or means comprises downloading descriptions of the root object nodes from the server to the graphical client, wherein the

descriptions include references to other object nodes comprising unique persistent identifiers for the referenced object nodes with their associated bounding volumes.

The Office Action asserts that Fisher teaches these limitations at col. 5, lines 41-51.

Appellant's attorney disagrees with this analysis, and submits that nowhere does the reference teach or suggest the limitations of these claims.

Instead, the cited locations in Fisher merely relate to the use of a frame by a user to control the selection of objects for insertion in a 3D scene, wherein selected objects are downloaded and inserted into the 3D scene.

However, nowhere is there any discussion in the cited portions of Fisher of descriptions of object nodes that include references to other object nodes, where the references to the other object nodes comprise unique persistent identifiers for the referenced object nodes with their associated bounding volumes.

7. Claims 7, 16 and 25

Claims 7, 16 and 25 recite that the downloading step or means comprises downloading descriptions of the object nodes from the server to the graphical client, wherein the descriptions include references to other object nodes comprising unique persistent identifiers for the referenced object nodes with their associated bounding volumes.

The Office Action asserts that Fisher teaches these limitations at col. 4, lines 62-65 and col. 5, lines 10-14.

Appellant's attorney disagrees with this analysis, and submits that nowhere does the reference teach or suggest the limitations of these claims.

Instead, the cited locations in Fisher merely relate to storing a scene, selecting finishes from another from another web site, applying the finishes to the stored scene, and providing a pricing function displayed in a frame to calculate the cost of a particular selection by the user.

However, nowhere is there any discussion in the cited portions of Fisher of descriptions of object nodes that include references to other object nodes, where the references comprise unique persistent identifiers for the referenced object nodes with their associated bounding volumes.

E. Arguments Directed To The Second Grounds for Rejection: Whether claims 8, 17, and 26 are unpatentable under 35 U.S.C. §103(a) as being rendered obvious by Fisher in view of U.S. Patent No. 6,374,402 to Schmeidler.

1. Claims 8, 17 and 26

Claims 8, 17 and 26 recite that the server is a stateless server. These claims stand or fall with claims 1, 10 and 19, respectively.

F. Arguments Directed To The Third Grounds for Rejection: Whether claims 9, 18, and 27 are unpatentable under 35 U.S.C. §103(a) as being rendered obvious by Fisher in view of U.S. Patent No. 6,414,693 to Berger.

1. Claims 9, 18 and 27

Claims 9, 18 and 27 recite that the graphical client includes a cache. These claims stand or fall with claims 1, 10 and 19, respectively.

VIII. CONCLUSION

In light of the above arguments, Appellant's attorney respectfully submits that the cited references do not anticipate nor render obvious the claimed invention. More specifically, Appellant's claims recite novel physical features which patentably distinguish over any and all references under 35 U.S.C. §§ 102 and 103.

As a result, a decision by the Board of Patent Appeals and Interferences reversing the Examiner and directing allowance of the pending claims in the subject application is respectfully solicited.

Respectfully submitted,

GATES & COOPER LLP
Attorneys for Appellant

Howard Hughes Center
6701 Center Drive West, Suite 1050
Los Angeles, California 90045
(310) 641-8797

Date: September 15, 2005

By: _____
Name: George H. Gates
Reg. No.: 33,500

GHG/

G&C 30566.118-US-01

APPENDIX

1. A computer-implemented method for synchronizing data between a graphical client and a server, comprising:

(a) downloading one or more root object nodes of a scene from the server to the graphical client, wherein the scene is a collection of parameter values for rendering a model;

(b) intersecting bounding volumes for the object nodes with a view frustum in the graphical client to determine a set of visible and undefined object nodes, wherein the view frustum is the part of the model between cutting planes defined by the scene; and

(c) downloading the object nodes in the set of visible and undefined object nodes from the server to the graphical client, wherein the graphical client renders the scene from the object nodes.

2. The method of claim 1, further comprising:

(d) determining whether the downloaded object nodes reference other object nodes; and

(e) repeating steps (b) and (c) for the other object nodes.

3. The method of claim 2, further comprising:

(f) repeating steps (d) and (e) until the set of visible and undefined object nodes is empty.

4. The method of claim 3, further comprising rendering the scene when the set of visible and undefined object nodes is empty.

5. The method of claim 4, further comprising repeating steps (a) through (f) when a camera changes the scene.

6. The method of claim 1, wherein the downloading step (a) comprises downloading descriptions of the root object nodes from the server to the graphical client, wherein the descriptions include references to other object nodes comprising unique persistent identifiers for the referenced object nodes with their associated bounding volumes.

7. The method of claim 1, wherein the downloading step (a) comprises downloading descriptions of the object nodes from the server to the graphical client, wherein the descriptions include references to other object nodes comprising unique persistent identifiers for the referenced

object nodes with their associated bounding volumes

8. The method of claim 1, wherein the server is a stateless server.

9. The method of claim 1, wherein the graphical client includes a cache.

10. A computer-implemented system for synchronizing data between a graphical client and a server, comprising:

(a) a graphical client, executed by a computer, including:

(1) means for downloading one or more root object nodes of a scene from the server to the graphical client, wherein the scene is a collection of parameter values for rendering a model;

(2) means for intersecting bounding volumes for the object nodes with a view frustum in the graphical client to determine a set of visible and undefined object nodes, wherein the view frustum is the part of the model between cutting planes defined by the scene; and

(3) means for downloading the object nodes in the set of visible and undefined object nodes from the server to the graphical client, wherein the graphical client renders the scene from the object nodes.

11. The system of claim 10, wherein the graphical client further comprises:

(4) means for determining whether the downloaded object nodes reference other object nodes; and

(5) means for repeating the means for intersecting (2) and the means for downloading (3) for the other object nodes.

12. The system of claim 11, wherein the graphical client further comprises:

(6) means for repeating the means for determining (4) and means for repeating (5) until the set of visible and undefined object nodes is empty.

13. The system of claim 12, wherein the graphical client further comprises means for rendering the scene when the set of visible and undefined object nodes is empty.

14. The system of claim 13, wherein the graphical client further comprises means for repeating the means for downloading (1) through the means for repeating (6) when a camera changes the scene.

15. The system of claim 10, wherein the means for downloading (1) comprises means for downloading descriptions of the root object nodes from the server to the graphical client, wherein the descriptions include references to other object nodes comprising unique persistent identifiers for the referenced object nodes with their associated bounding volumes.

16. The system of claim 10, wherein the means for downloading (1) comprises means for downloading descriptions of the object nodes from the server to the graphical client, wherein the descriptions include references to other object nodes comprising unique persistent identifiers for the referenced object nodes with their associated bounding volumes

17. The system of claim 10, wherein the server is a stateless server.

18. The system of claim 10, wherein the graphical client includes a cache.

19. An article of manufacture embodying logic for synchronizing data between a graphical client and a server, the logic comprising:

(a) downloading one or more root object nodes of a scene from the server to the graphical client, wherein the scene is a collection of parameter values for rendering a model;

(b) intersecting bounding volumes for the object nodes with a view frustum in the graphical client to determine a set of visible and undefined object nodes, wherein the view frustum is the part of the model between cutting planes defined by the scene; and

(c) downloading the object nodes in the set of visible and undefined object nodes from the server to the graphical client, wherein the graphical client renders the scene from the object nodes.

20. The article of manufacture of claim 19, wherein the logic further comprises:

(d) determining whether the downloaded object nodes reference other object nodes; and

(e) repeating steps (b) and (c) for the other object nodes.

21. The article of manufacture of claim 20, wherein the logic further comprises:

(f) repeating steps (d) and (e) until the set of visible and undefined object nodes is empty.

22. The article of manufacture of claim 21, wherein the logic further comprises rendering the scene when the set of visible and undefined object nodes is empty.

23. The article of manufacture of claim 22, wherein the logic further comprises repeating steps (a) through (f) when a camera changes the scene.

24. The article of manufacture of claim 19, wherein the downloading step (a) comprises downloading descriptions of the root object nodes from the server to the graphical client, wherein the descriptions include references to other object nodes comprising unique persistent identifiers for the referenced object nodes with their associated bounding volumes.

25. The article of manufacture of claim 19, wherein the downloading step (a) comprises downloading descriptions of the object nodes from the server to the graphical client, wherein the descriptions include references to other object nodes comprising unique persistent identifiers for the referenced object nodes with their associated bounding volumes

26. The article of manufacture of claim 19, wherein the server is a stateless server.

27. The article of manufacture of claim 19, wherein the graphical client includes a cache.